DEMENTIA

What Everyone Should Know!

Pattie Gaudio
Dementia Services Educator

WILLIAMSBURG LANDING
✓ Overview of the Brain

✓ Natural Age Related Changes vs. Alzheimer’s

✓ What happens in Alzheimer’s Disease?

✓ Latest research

✓ What you can do!!!
The Brain...

STRUCTURE OF THE BRAIN

Motor Area
- control of voluntary muscles

Sensory Area
- skin sensations (temperature, pressure, pain)

Frontal Lobe
- movement
- problem solving
- concentrating, thinking
- behaviour, personality, mood

Broca’s Area
- speech control

Temporal Lobe
- hearing
- language
- memory

Brain Stem
- consciousness
- breathing
- heart rate

Parietal Lobe
- sensations
- language
- perception
- body awareness
- attention

Occipital Lobe
- vision
- perception

Wernicke’s Area
- language comprehension

Cerebellum
- posture
- balance
- coordination of movement

Nerve cell

Synapse

Axon

Dendrite

© Mayo Foundation for Medical Education and Research. All rights reserved.
Areas affected by normal aging...

- PREFRONTAL AREA
  - Executive Function

- HIPPOCAMUPS
  - Memory

- AXONS
  - Processing Speed
When Does Age Related Age Changes Cross Over to a Dementia?

MEMORY LOSS THAT DISRUPTS DAILY LIFE

- Memory
- Inability to Retrace ones steps
- Language
- Confusion
- Poor Judgement
- Inability to operate and/or recognize common appliances
- Difficulty understanding Visual/Spatial relationships
Reversible Dementias

Depression
Delirium
Side Effects from Medications
Underactive Thyroid
Certain Vitamin Deficiencies
Sensory Deficits (Vision & Hearing)
Tumors
My Number One Question:

What is the difference between

Alzheimer’s Disease

And

Dementia?
There are over 100 different types of dementia!

- Alzheimer’s Disease
- Vascular Dementia
- Dementia with Lewy Bodies
- Frontotemporal Dementia
- Parkinson’s Disease
- Others…
Alzheimer’s Disease

Amyloid Plaques and Tau Tangles
Cognitive and Behavioral Changes

STAGES OF THE GDS - GLOBAL DETERIORATION SCALE

1- No Cognitive Decline
2- Very Mild Cognitive Decline Age Related Changes
3- Mild Cognitive Impairment
4- Moderate Cognitive Decline
5- Moderately Severe Cognitive Decline
6- Severe Cognitive Decline
7- Very Severe Cognitive Decline

BEHAVIORS- Their Means of Communication

Depression
Agitation
Delusions/Hallucinations
Wandering/Pacing
Hoarding
Sundowning and Sleep Disorders

What can we do! Change the environment or how we interact. Communication skills!
Help with wandering or getting lost

REUNITES ALZHEIMER’S VICTIMS WITH LOVED ONES

The James City County Police Department currently offers a program called Project Lifesaver. This program is designed to reduce the time it takes to locate persons who suffer from Alzheimer’s, Dementia, Autism, or any other disorder that may cause the tendency to wander.

PROJECT LIFESAVER uses state-of-the-art technology to locate Alzheimer’s victims and other persons suffering from related mental dysfunction disorders such as Down’s Syndrome and Autism.

For more information visit the Project Lifesaver International website at:
http://www.projectlifesaver.org/site/

James City County Police Dept.
4600 Opportunity Way
Project Coordinator:
Community Services Unit
Phone: 757-603-6022
email: Police@jamescitycountyva.gov

Additional Services Offered:
FILE OF LIFE
EMERGENCY 911 HEADS UP

James City County Police
Project Lifesaver

Minutes Save Lives!

24 Hour Emergency Contact Number
James City County Police (757) 566-0132
(757) 253-1800
Current thoughts…

Institute on Aging and Alzheimer’s Association

Preclinical- 10-20 year period

Mild Cognitive Impairment

Alzheimer’s Disease
Early Detection: A search for Biomarkers

Cerebral-spinal Fluid: Tau and Beta-Amyloid levels

Blood Tests

Urine Tests

Genetic Risk Profiling

Ocular Eye Detection

Neuroimaging:
  Structural: MRI and CT
  Functional: PET and fMRI

Molecular Imaging: PET, fMRI, SPEC, RSI
Medications:

- **Monoclonal Antibodies**- Anti-plaque that recruits the immune system

- **Preventing Destruction of the Synapse**
  - b-amyloid must combine with Fyn that triggers destruction of the synapse

- **Production Blockers to form full Amyloid**
  - Blocks the enzymes beta and gamma secretase
New Potential Treatments of Interest Currently Being Studied

- Medications that Spur Neurogenesis
- Tau aggregation inhibitors
- Reducing inflammation - Diabetes blood Medication
- Medications to support damaged heart and arteries which increase risk of Dementia
- Deep Brain Stimulation
- Mayo Clinic - combination of Medications as with cancer an HIV
Amyloid Plaque generation is actually the body’s normal protective response to protect itself from three things:

1. Inflammation - infection/ diet/ other causes
2. Suboptimal levels of Nutrients and other synaptic molecules can be hormones
3. Toxic exposures - can be metals or biotoxins such as poisons produced by microbes such as molds
What You Can Do!

Develop a Brain Healthy Lifestyle

✓ Diet- Mediterranean
✓ Exercise
✓ Sleep
  - short term memory is laid down into long term memory
  - CSF removes amyloid proteins from the day
✓ Brain Exercises
✓ Lower Stress
✓ Laugh more
✓ Watch your Head!
Questions